



Campbell 2. / 9  
(1-28).





13.

**MAGNIFICENT DIAMOND AND VALUABLE SAPPHIRES.**—The lectures on mineralogy for the present term were commenced at King's College yesterday morning by Prof. Tennant, F.G.S., who proposed in the present series to treat of rock masses and the metalliferous minerals, availing himself of the opportunity of saying a few words with regard to a very choice diamond which he was able to show to the Class. Indeed, during the 35 years that he had lectured in the College he had never had so fine a specimen to exhibit. A few months since one of his former students brought him the crystal represented in fig. 1, and which in its original state weighed 112 carats; it had since been cut into the beautiful brilliant figs. 2, 3, and 4, weighing 66 carats. The stone has a delicate yellow tinge.

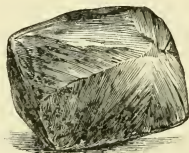


Fig. 1.

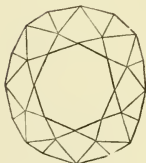


Fig. 2. Front view.



Fig. 3. Side view.

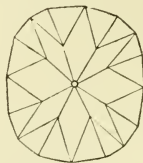


Fig. 4. Back view.

The above diagrams represent the gem: the cutting was executed in London; and it may be remarked, with regard to this kind of work, that 150 years since the English diamond-cutters were the most celebrated in the world; but as these died off the trade fell into the hands of Jews, who, being at the time subject to great injustice, socially and otherwise, both in England and elsewhere, migrated in large numbers, including the diamond-cutters, to Amsterdam, the only city which gave them comparative freedom, and thus the diamond-cutting business became there established. At the present time, however, the Jews enjoy full freedom in this country, and it is found that they fulfil all the duties of citizens with great honour, many now occupying high positions in law, medicine, and other callings; indeed some of the most diligent and successful students have belonged to the Jewish persuasion.

The diamond-cutting trade is now coming back to England, and the stone before them afforded a fair sample of what excellent work could be done here. He might mention that the stone was valued in its present form at £20,000, whilst the value of the models of it, which had been cut by the best lapidaries, was a mere trifle, that in glass costing him but 10s., and that in crystal but £2.

The Professor also exhibited a South-African diamond in the matrix, consisting chiefly of broken fragments of chloritic and clay-slates. In the former part of this Course was described the mode of occurrence of the diamond and the minerals associated with it in India, the Brazils, and

other countries ; but he had never before been able to exhibit so fine and instructive a specimen. For the first diamond brought from the Cape he offered (he said) £400, and Mr. Coster, of Amsterdam, bid £500 ; but the Governor of the Colony had directed that it should not be sold, as he himself wished to purchase it at the highest price offered. They would remember that the rule given by Jeffries and the best authorities upon diamonds for ascertaining the value of cut diamonds, is to multiply the square of the weight in carats by 8, and call it pounds, so that the diamond on the table would be worth  $66 \times 66 \times 8 = £34,848$ . He went on to explain that the diamond in its natural state bore considerable resemblance to a piece of gum, and that the men engaged in diamond-cutting, large as was the values of the stones entrusted to them, had long received only £1 1s. per week for their labour, and were now receiving only £2.

The work, however, was principally mechanical, the chief art lying in the breaking of the stones so as to remove flaws when they existed, and to get the largest possible gem out of a given crystal. As an instance of the commercial application of scientific knowledge, he instanced the case of Dr. Wollaston's purchase from Messrs. Rundall and Bridge, the Crown jewellers, of a faulty diamond for £6000, and then after removing the flaw and making a jewel for a ring and a set of shirt-studs out of the piece removed, reselling the then perfect stone for the sum of £7000.

Turning from diamonds to sapphires, Professor Tennant mentioned that a gentleman had on the previous day brought him the specimen of corundum which he then exhibited ; he had never seen any thing to equal it, yet he was told it came from a vein extending over a space of country 300 miles long. As a practical application of a little elementary knowledge, it was mentioned that the Professor, in taking leave of a pupil who was about to start for the Cape, put into his hands a piece of corundum, remarking, "If you find any stone that scratches that, it must be a diamond." It is interesting to state the use made of this knowledge. The gentleman was present at Du Toit's Pan, in the diamond-fields of South Africa, and saw a bucketful of mud taken up from which a pebble was produced. On asking leave to examine it, it was found to scratch the corundum, and £1000 was immediately offered for it and accepted. Within a week it was sold for £6000. Both Oriental topaz, ruby, and sapphire were shown in the stone. He remarked that the finest sapphire was in the possession of Lady Burdett-Coutts, and had formerly been one of the Crown jewels of France, but was sold in London after one of the revolutions of that country ; it was this circumstance that made the late Emperor so desirous to acquire that particular stone for France. Comparing corundum with quartz, to which it bears some resemblance, the Professor explained that they could readily be distinguished from each other ; the hardness of the quartz is 7, whilst that of corundum is 9 ; and if, again, a crystal of each were broken it would be found, whilst the corundum would break into rhombs on each alternate angle, the quartz would break with a curved fracture. The best way, however, of distinguishing them was to take their specific gravity, that of corundum being 3.9, whilst that of quartz was but 2.6. He referred the students to a reprint from the 'Mining Journal' of an interesting lecture on Gems by his friend Prof. Morris, which contained much valuable information on the subject. The ordinary subject of the lecture was then proceeded with.











